

Broadcast Server Manual



ZNS NVR

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1. Introduction

Ganz ZNS is a digital video recording and remote surveillance software package for MS Windows.

Ganz ZNS accepts video streams from all major network (IP) cameras and servers, frame grabbers and any DirectShow compatible devices including webcams and USB-cameras. This along with the Luxriot client-server architecture allows you to build fully scalable solution sizing from a single camera up to thousands of cameras.

Ganz ZNS Broadcast Server (ZBS) is a part of the Ganz ZNS video management software that can be installed with or after Ganz ZNS installation and is designed for video streaming to multiple web-browsing platforms such as:

- Internet Explorer
- Mozilla Firefox
- Google Chrome
- Apple iOS mobile Safari
- Android mobile Chrome

Some major *ZBS* features are: live view of video streams, archive playback, Pan-Tilt-Zoom, screen layouts.

ZBS optimizes video stream for web or mobile client depending on connection speed and device viewing capabilities.

ZBS functioning is possible, when it's installed on the same computer, where *Ganz ZNS Server* has been installed.

1. System requirements

ZBS has the same system requirements as *Ganz ZNS*.

CPU: **ZBS** is a multi-threaded application, so using multi-core CPU is strongly recommended. *GBS* involves video retransfer, which is CPU time capacious.

Video adapter: *ZBS* doesn't involve VGA hardware, so there is no any requirements for VGA adapters.

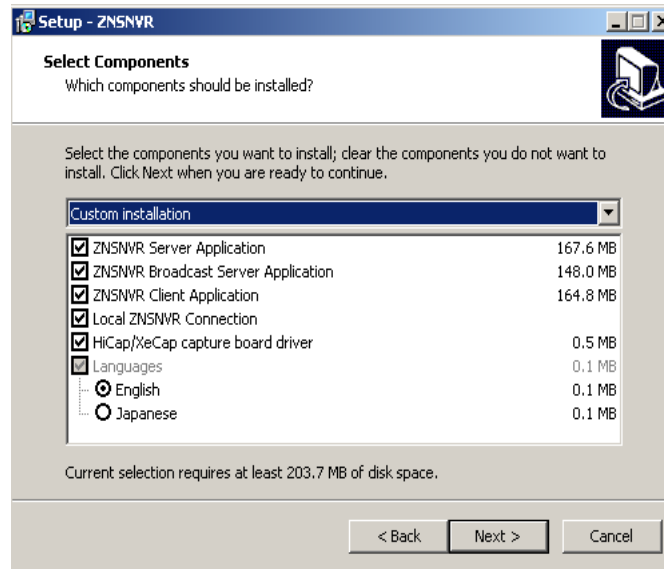
Client side:

Platform	Operating System	Device	Browser
Mobile	iOS 3.x, 4.x, 5.x	iPhone and iPad	Native Browsers
	Android 2.x, 3.x, 4.x	Phones and tablets	
	Windows Mobile 6.0, 6.5	Phones	
	BlackBerry Touch OS 7.0	Phones	
	Samsung Bada 1.2	Phones	
	Nokia N800 and N900 Series	Phones	Mozilla Firefox

Platform	Operating System	Browser
Desktop	MS Windows XP Home/Pr0	IE 9.x, 10.x Mozilla Firefox 3.x, 4.x – 18.x Google Chrome: all versions Safari 5.x
	MS Win Vista, 7, 8	
	MS Windows Server 2003, 2008, 2012	

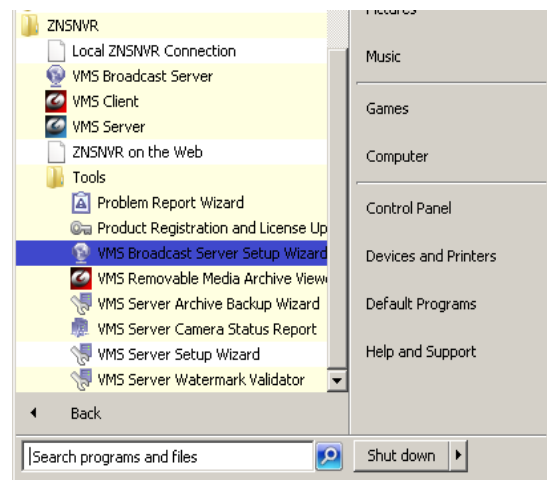
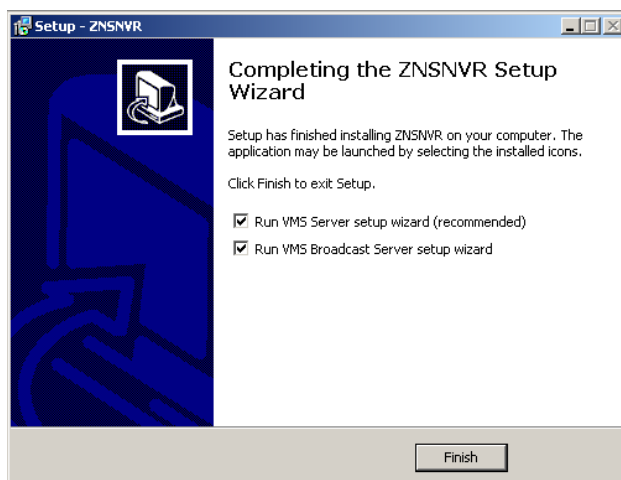
2. Broadcast Server setup

If you are installing Ganz ZNSNVR Broadcast Server for the first time, then you should simply make sure ZNSNVR Broadcast Server Application is selected.



In case you installed Ganz ZNSNVR previously and did not include BROADCAST SERVER into your installation, you can update an existing installation by running Ganz ZNSNVR setup wizard and checking ZNSNVR Broadcast Server box within components window.

On a first time Ganz ZNSNVR installation, you will be asked to complete Broadcast Server Setup Wizard. This wizard can also be run later via Start Menu.



3. Broadcast Server configuration

Ganz ZNSNVR Broadcast Server can be set up to run either in application mode or in service mode.

1. Application Mode

This means that Broadcast Server can be started in several ways:

- **Manual:** The program can only be started manually via the Start Menu.
- **Automatic with any user logon:** Broadcast Server will start when any user logs into the system which has Broadcast Server installed.
- **Automatic with current user logon:** The same but for the current user account only.

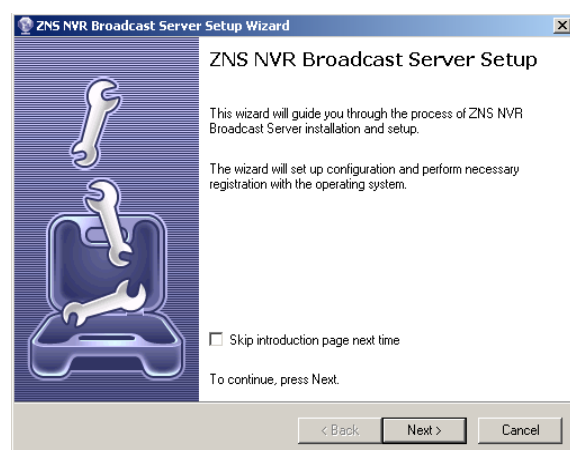
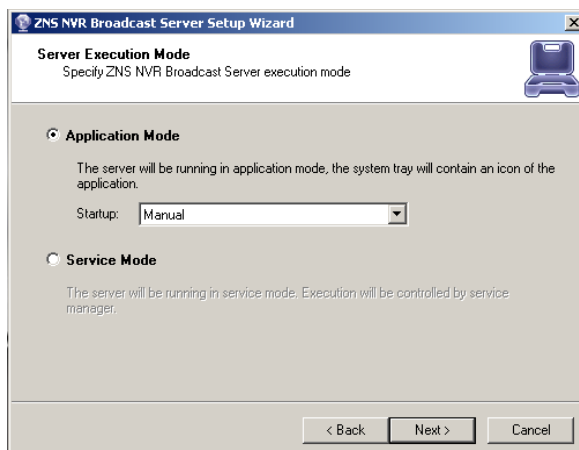
After application start, a tray icon will appear and it will allow to open Broadcast Server Client in the Internet browser or to stop the application.

2. Service Mode

Broadcast Server will always run in background as system service, even when nobody is logged in. This means, you can log everyone out of Windows and never have to worry about your data. Also, if computer ever loses power supply, upon its recovery service will be launched automatically.

Broadcast Server as a service has no tray icon; however, running Broadcast Server from Windows Start Menu (or using a shortcut) will also make a tray icon appear.

Note: We strongly recommend to use the same mode for Broadcast Server and Ganz ZNSNVR Server.



HTTP Server Settings

Following settings are available for the HTTP Server configuration:

Server Title:

Server name that will appear in browser/mobile Client/

TCP port:

Will be used for incoming connections from Clients, though the default is 8080, it can be set to network requirements.

Note: If Broadcast Server is placed behind a router, make sure that proper port forwarding is configured for the server to be accessible via local network and/or Internet.

Network adapter:

Select which network interface should be used. By default, "All Network Adapters" is selected; however, this option is not recommended when multiple network interfaces are present in the system.

The screenshot shows a window titled "ZNS NVR Broadcast Server Setup Wizard" with a sub-header "HTTP Server" and the instruction "Choose HTTP server settings". The window contains three main sections: "Server title:" with a text box containing "Demo" and a note "(server title which will be shown in HTTP client)"; "TCP Port to listen for incoming HTTP" with a text box and a note "(leave empty to use default value of 8080)"; and "Network Adapter(s) to listen for incoming HTTP connections:" with a list box containing two options: "☐ (All Network Adapters)" and "☒ Intel(R) 82578DC Gigabit Network Connection". At the bottom right are three buttons: "< Back", "Next >", and "Cancel".

3. Streaming Settings

Broadcast Server output can be adjusted to satisfy system resource limitations: for system performance optimization, you can restrict resolution and frame rate for all video streams without affecting video stream settings on the cameras or Ganz ZNSNVR Server.

Following settings are available for the HTTP Server configuration:

For a scalable video stream resolutions

This mode allows to stream variable video stream resolutions, but requires more system resources.

For performance optimization

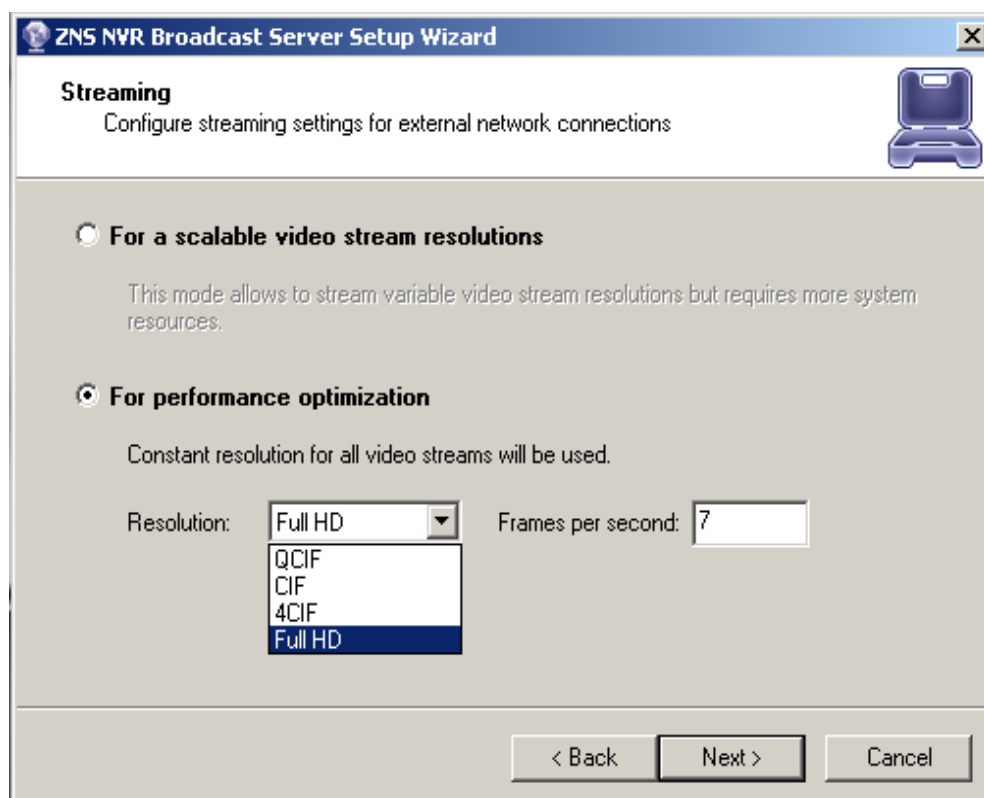
Constant resolution for all video streams will be used

Resolution

Option of resolutions are; QCIF, CIF, 4CIF, or Full HD

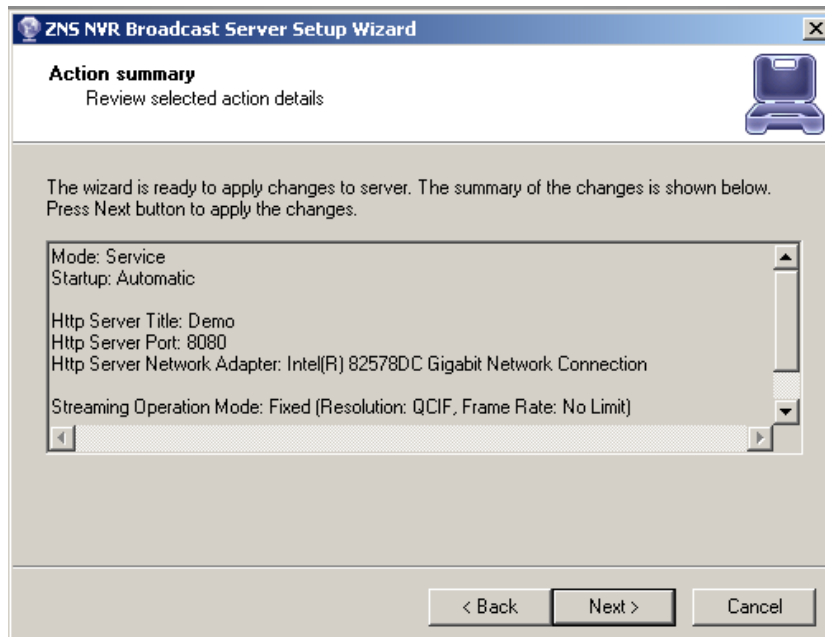
Frames per second

Frames per second can be set from 1 ~ 30



Action summary

Upon completion of the ZNSNVR Broadcast Server configuration, an review screen, or action summary is presented.



4. Broadcast Server: Desktop Browsers

All *Broadcast Server* features are accessible only via web interface – it doesn't have a windows based graphical user interface on your Windows machine.

All settings (such as layouts, video configuration parameters etc.) of ZBS are Ganz ZNSNVR Client inherited. All changes you make for the current browser will not be saved for another browser or another PC.

If your browser works in a so called private mode (for example, InPrivate Browsing mode for IE, Private Browsing in Mozilla Firefox etc.), than all your ZBS configured layouts and settings will not be saved.

Before opening and using *Broadcast Server* remember:

- To have all the necessary cameras configured in your Ganz ZNSNVR Client.
- If computer with Ganz ZNSNVR Server is located in local network and access via internet is required, than you should configure your router in a way, that it would be possible to access that PC's IP address from the outside of the local network.

If you haven't specified it differently, then your *Broadcast Server* web-address is an IP-address of the computer, where Ganz ZNSNVR is installed (remember that local version of *Broadcast Server* accessible only within your local network). In the case of using default port number for incoming HTTP connections the full form of web-address will have such a similar look:

[http://\[IP-address\]:\[port\]](http://[IP-address]:[port]), where IP-address is the IP-address/DNS-name of the PC with Ganz ZNSNVR and port number (default: 8080).

For example, <http://www.example.com:8080> or <http://192.168.1.77:8081>

Note: When using domain names in a LAN, make sure to use "domain.lan" notation.

1. User Privileges

Following user permissions must be granted (configured via the ZNSVMS Server):

- Connect Broadcast: permission to connect to BS
- Receive Device Data: live view the cameras
- Access Archive: view recorded video in Archive mode

Note:

Anybody given administrator's login and password will also have access to your Ganz ZNSNVR Server, so it is recommended to create separate user(s) with limited permissions.

If you haven't specified it differently, then your Broadcast Server web address is the IP address of the computer, where Ganz ZNSNVR Server is installed (remember that a local IP is only accessible within your local network).

Online Demo

CBC AMERICAS Corp has an online demo version of Ganz ZNSNVR *Broadcast Server*.

The address is <http://173.251.26.250:8080>.

The login is demo and password 2468.

5. Broadcast Server live view

When you first open the ZBS page, you will see the live view screen. The live view screen is made up of three panes;

- **Layout function Pane:** Broadcast Server title, Add Camera, New Template, Load Template, Favorites, Archive, and Settings.
- **Aspect Ratio Pane:** Save layout, Favorite, 16:9 aspect, 4:3 aspect, Compact, and Full screen.
- **Video channel Pane:** Currently configured video channel arrangement.

1. Layout function Pane:

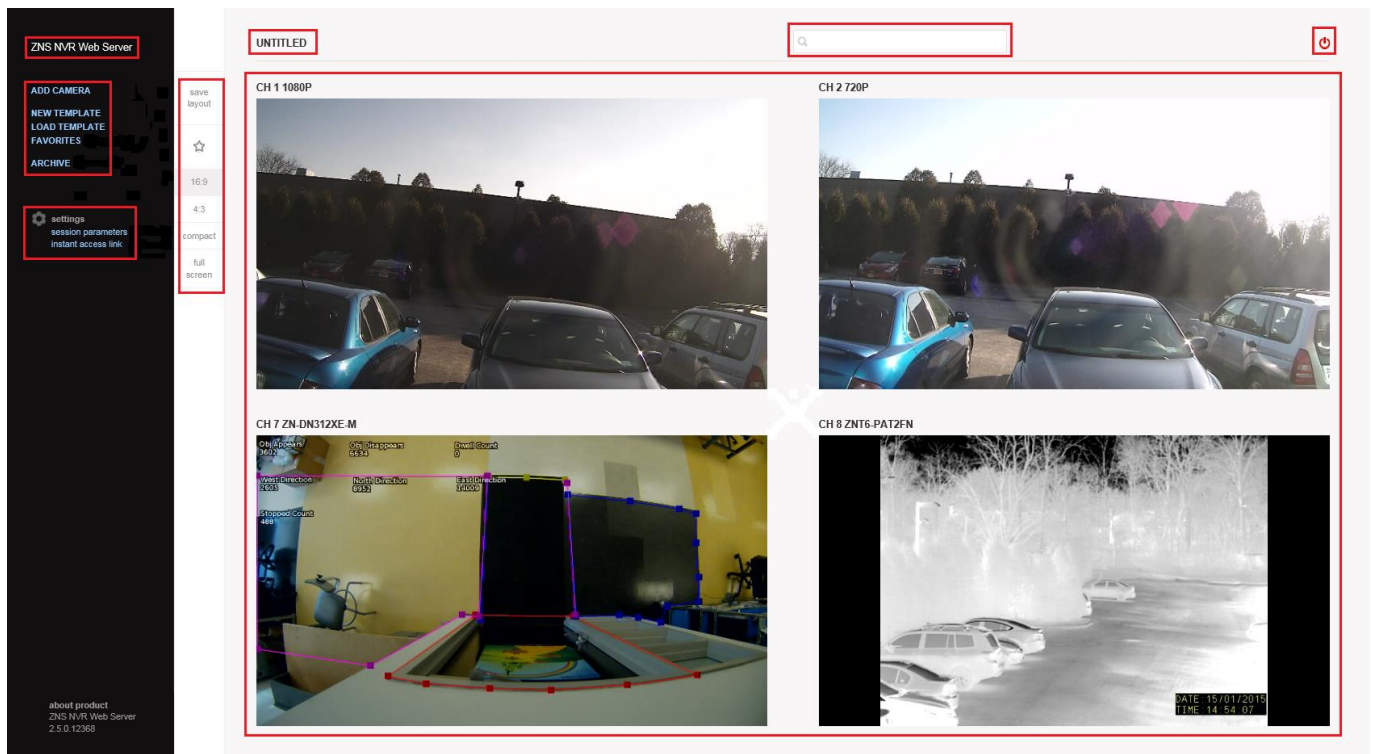
1. **ZNS NVR Web Server:** This link when clicked on will offer the option to log out, otherwise it will redirect the user to the live view screen.
2. **Add Camera:** If you want to replace a camera, then click on the *Add camera* link and click on the desired camera from the drop down list. The same camera cannot be represented on the layout twice.
3. **New Template:** To create a screen layout click on *New template* and create a grid, 1 cell minimum or 3x15 cells maximum by just pulling the mouse arrow over the cells to the right and down.
4. **Load Template:** All your saved layouts can be explored, marked/unmarked as favorite or deleted by clicking *Load template* link.
5. **Favorites:** All your favorite layouts, ones that have previously been marked, added to the favorites can be found by clicking here.
6. **Archive:** Click on archive, in order to playback a selected cameras archived data.
7. **Session parameters:** For changing the “Color Theme”, and “User interface language”.
8. **Instant access link:** Using *Instant access link* gives you the possibility to send your default layout video streams' web page to everyone without necessity to enter a login and password.

2. Aspect Ratio Pane:

1. **Save Layout:** Save newly created layouts by clicking *Save layout*, give the layout a name (represented above the layout and by default called *Untitled* and add desired cameras.
2. **Star:** You can mark layout as favorite by clicking star icon (it will change colour from transparent to the black) and that marked layout will be moved to *Favorites*.
3. **16:9:** Changes the viewing aspect ratio from a 4:3, to a 16:9.
4. **4:3:** Changes the viewing aspect ratio from a 16:8, to a 4:3.
5. **Compact:** By clicking *Compact* the window pane on the left, containing Add Camera, New Template, Load Template, Favorites, and Archive will minimize to the left.
6. **Full Screen:** When *Full screen* is select the video channels will expand, retracting the two left panes, and top pane, maximizing the available video channels with in the browser. (The “size” of the video streams depend on how your browser window is configured.)

3. Video channel Pane:

1. **Layout title:** Displays the currently active layout title, if other than default “Untitled”.
2. **Search Tool:** Found above the live view, and to the right, type a cameras title into the search tool and a list of available cameras will appear.
3. **Log-out:** To log out from *Broadcast Server*, click on the red *Log-out* button in the top-right side of the webpage.
4. **Video channels:** The default layout consisting of the first four cameras that are configured in your Ganz ZNSNVR Client with exactly the titles, which were given during the server configuration. If you have less than four cameras then only active streams will be represented, the rest of the four will be replaced by black boxes.



PTZ Controls: The Point-to-click option is unavailable. Double click on desired camera from layout and then move mouse cursor to the live stream to see the controls.

Snapshot: To take a snapshot of an archived video frame, just click on the video with the right mouse button and choose the corresponding option (“Save picture as” for IE, “Save Image As” for Mozilla Firefox etc.).



6. Broadcast Server playback

Clicking on the *Archive* link in the live view screen will open and preview any accessible camera archive from the list found on the left side of the Archive browser window. The archive screen is made up of three panes;

- **Archive function Pane:** ZNS NVR Web Server, Function Pane Back Arrow, Add Camera, and Settings.
- **Aspect Ratio Pane:** Save layout, Favorite, 16:9 aspect, 4:3 aspect, Compact, and Full screen.
- **Archive Playback Pane:** Currently configured video channel arrangement.

1. Archive function Pane:

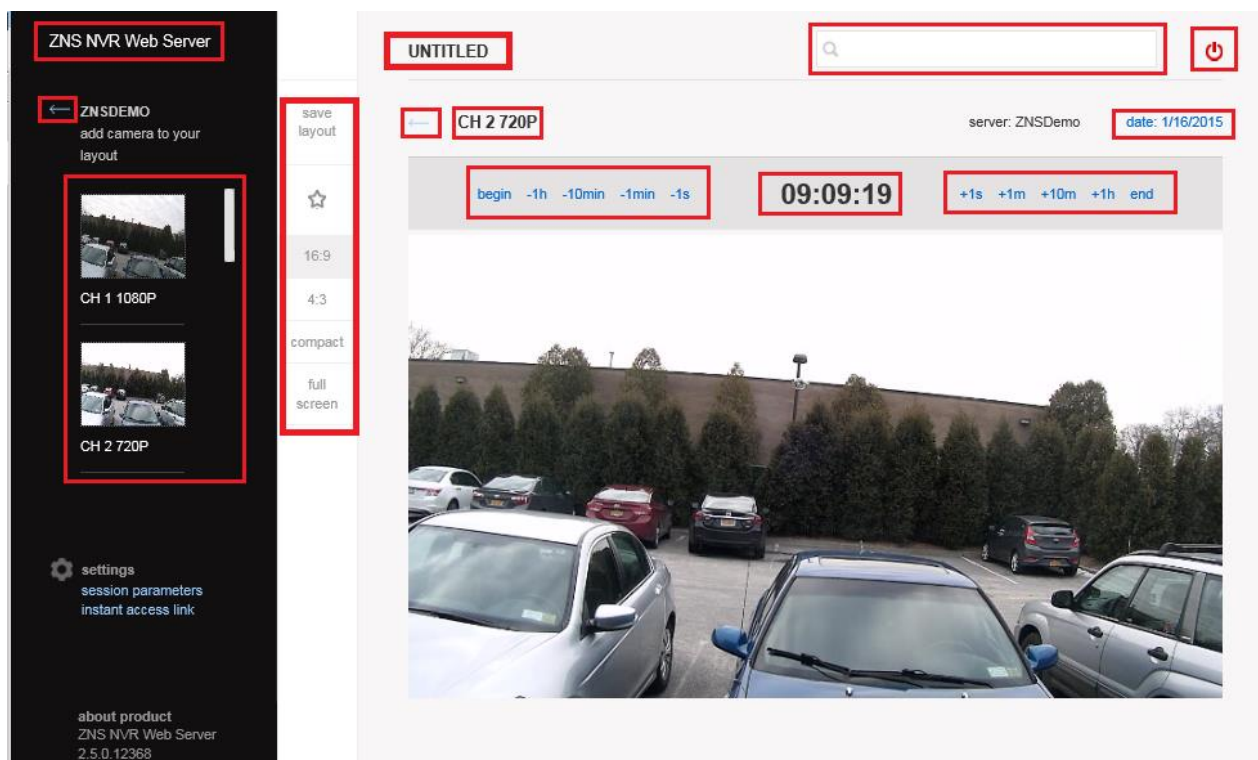
1. **ZNS NVR Web Server:** This link when clicked on will offer the option to log out, otherwise it will redirect the user to the live view screen.
2. **Function Pane Back arrow:** Clicking on the back arrow found on the function pane, above the camera list will switch the function pane from archive camera selection, to the layout function options.
3. **Add camera:** Click on the desired camera and its video stream will appear (approximately one minute before the current actual viewing time).

2. Aspect Ratio Pane:

1. **Save Layout:** Save newly created layouts by clicking *Save layout*, give the layout a name (represented above the layout and by default called *Untitled* and add desired cameras.
2. **Star:** You can mark layout as favorite by clicking star icon (it will change colour from transparent to the black) and that marked layout will be moved to *Favorites*.
3. **16:9:** Changes the viewing aspect ratio from a 4:3, to a 16:9.
4. **4:3:** Changes the viewing aspect ratio from a 16:8, to a 4:3.
5. **Compact:** By clicking *Compact* the window pane on the left, containing Add Camera, New Template, Load Template, Favorites, and Archive will minimize to the left.
6. **Full Screen:** This function is not currently available in archive playback.

3. Archive function Pane:

1. **Layout title:** The name of the active layout is displayed above and to the left of the archive video channel.
2. **Search Tool:** Found above the archive clip, and to the right, type a cameras title into the search tool and a list of available cameras will appear.
3. **Log-out:** To log out from *Broadcast Server*, click on the red *Log-out* button in the top-right side of the webpage.
4. **Archive Back arrow:** Clicking on the back arrow found to the left of the camera title will switch the playback view screen to the live camera selection screen.
5. **Camera title:** The name of the selected camera is displayed above and to the right of the archive back arrow.
6. **Date:** Clicking on the date, found above and to the right of the archive playback will bring up a calendar menu. Use the calendar to select the month and day of interest.
7. **Navigation:** The time navigation tool consists of three parts;
 - Rewind: Begin, -1 Hour, -10 Minutes, -1 Minute, and -1 Second.
 - Playback time: Currently viewed and or playing archive time.
 - Fast Forward: +1 Second, +1 Minute, +10 Minutes, +1 Hour, and End.
8. **Snapshot:** To take the snapshot of archived video frame just navigate to the desired moment, stop archive playback (focus your mouse arrow on archive video and click on the pause-button that appears), click on the video with mouse right button and choose corresponding option ("Save picture as" for IE, "Save Image As" for Mozilla Firefox etc.).

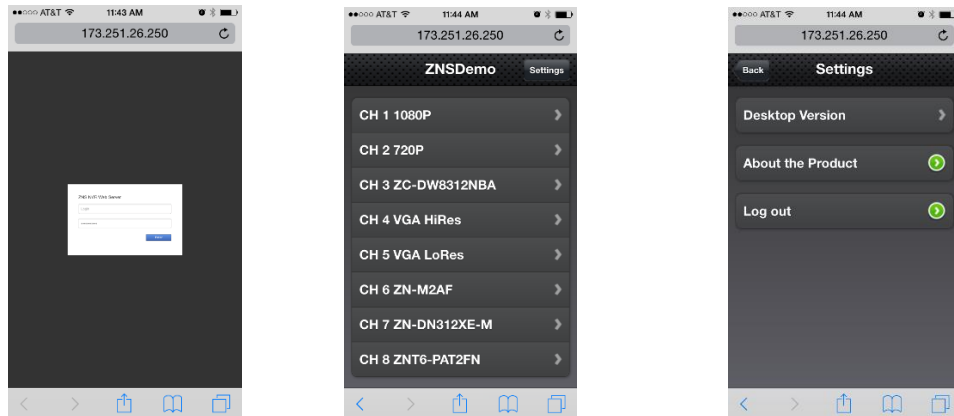


7. Broadcast Server: Mobile Browsers

The Mobile version of *ZBS* is optimized for your phone and tablet, aimed at getting a live stream from any of your cameras while on the go.

After logging into the *ZBS* on the mobile device (enter the *ZNS Broadcast Server* IP-address/DNS-name into the web-browser address bar) a list of *ZNS Broadcast Server Client* preconfigured cameras and *Settings* button, is the displayed.

Tapping on the *Settings* button will present the option to launch the desktop version, about the product, and log out.



Tapping on any camera link will present a live video stream. To go back put on *Back*-button above the stream.

Tapping on the live video stream will present an option to enter full screen mode.

Tapping on the live video stream while in full screen mode, will present an option to exit full screen mode.



The functionality presented in a mobile browser will only allow viewing of a selected video stream. If you want to get the same functionality as on the desktop platform, than tap on the *Settings* button and choose *Desktop Version*. You will be redirected to the full version of *ZBS* with all the controls that were described in the above chapters.

By tapping on the button *About the Product* you will see the current *ZBS* version and the user that is currently logged in. To close click on *Close* button.

To log out from the *ZBS* tap on *Settings*, and choose the *Log out* button and *Log out*.